

REMARKS

Claims 1-8 are all the claims pending in the application. Applicant amends claim 1 with features at least found on page 12, lines 2-22. No new matter is added.

Incomplete Office Action/Premature Finality

As an initial matter, Applicant respectfully submits that the current Office Action is incomplete. For example, MPEP 707.07(f) states that “[w]here the applicant traverses any rejection, the examiner should, if he or she repeats the rejection, take note of the applicant's argument and answer the substance of it”. In the previous Amendment filed January 9, 2008 (hereinafter, “the previous Amendment”), it was submitted with regard to claim 2, Endo discloses that the self-aligning torque T_s is computed by the constitution such as the Expressions (3)-(4) that a slip angle β , a yaw rate γ and an actual steering angle δ are inputs. In Endo, the constitution which estimates the self-aligning torque from a motor rotation signal or an angular speed signal and the motor electric current command value according to the present invention is not disclosed as required by claim 2 (see previous Amendment, page 8, last two paragraphs). This argument is not addressed in the current Office Action (Office Action, pages 3 and 4, paragraph 6). Therefore, the current Office Action is incomplete.

Moreover, maintaining the rejection on a final basis, without addressing the Applicant's previously submitted argument is prejudicial to the Applicant. Thus, Applicant submits that the finality of the Office Action is premature, and respectfully request withdrawal of the improper finality.

Furthermore, as set forth in M.P.E.P. 706.02(j), "it is important for an examiner to properly communicate the basis for a rejection so that the issues can be identified early and the

applicant can be given fair opportunity to reply." Here, as best Applicant understands the Examiner's rejection, columns 1, 2, 6, 7 and 8 of Endo are alleged to disclose all the features of claims 1-8. However, it is unclear which portion of the reference the Examiner is relying on for allegedly disclosing each and every feature of the claimed invention. Accordingly, the Examiner is respectfully requested to provide specific citations to the prior art, or to withdraw the rejection.

Claim rejection under 35 U.S.C. § 102

Claims 1-8 are rejected under 35 U.S.C. § 102(b) as being anticipated by Endo (U.S. Patent No. 6,240,350, hereinafter "Endo"). Applicant respectfully traverses this rejection as follows.

Claim 1

Claim 1 recites, *inter alia*, "a self-aligning torque estimating section which estimates a self-aligning torque by a disturbance observer constitution." In the Response to the Arguments section of the Office Action, the Examiner asserts that:

as previously addressed, 'disturbance observer constitution' is an ambiguous entity. While it may be well known to Applicant as argued, it is not a commonly used term in the art and one cannot apply one's own definition to such terms. Broadly interpreted, 'disturbance observer constitution' is currently taken to mean the yaw sensors, etc. that constitute input for self-alignment torque, since a change in yaw is a disturbance and the sensor observes said disturbance.¹

Applicant respectfully disagrees with the Examiner for at least the following reasons. According to the claimed invention, a self-aligning torque estimating section estimates a self-

¹ Office Action at page 3, paragraph 6.

aligning torque. On the other hand, Endo discloses a self-aligning torque TS as a function of a slip angle β , a yaw rate γ and an actual steering angle δ . That is, Endo does not estimate the self-aligning torque Ts, as evidenced by the fact that there is no component for estimating the self-aligning torque Ts in Fig. 4.

Moreover, Applicant respectfully submits that even if, *assuming arguendo*, Yaw sensors observe disturbance as asserted by the Examiner, this disclosure fails to teach or suggest estimating a self-aligning torque as recited in the claim. That is, observing a disturbance does not teach or suggest estimating a self-aligning torque.

Further, amended claim 1 recites, *inter alia*, “the disturbance observer constitution comprises: a first section having a first factor which is a product of an electric characteristic of the motor and a low-pass filter; and a second section having a second factor which is a quotient obtained by dividing the low pass filter by an ideal model.”

In Endo, the self-aligning torque appears to be computed by an expressions (3) - (4) on column 4, lines 40-56. However, this disclosure in Endo does not teach or suggest a disturbance observer constitution as defined by claim 1. Also, FIG. 4 of Endo does not teach or suggest a disturbance observer constitution as recited in claim 1.

Lastly, claim 1 recites, *inter alia*, “a steering torque feedback section which computes a steering reaction force AT based on a self-aligning torque estimated value which has been estimated by the self-aligning torque estimating section and feeds the result back to the steering torque.” However, since Endo does not teach or suggest a self-aligning torque estimated value which has been estimated by the self-aligning torque estimating section, accordingly, Endo also

does not teach or suggest computing a steering reaction force AT based on a self-aligning torque estimated value.

In view of the above, Applicant submits that claim 1 is allowable because the cited reference does not teach or suggest all of the features of the claimed invention.

Claim 2

In the Amendment filed January 9, 2009, Applicant submitted that Endo does not teach or suggest estimating the self-aligning torque from a motor rotation signal or an angular speed signal and the motor electric current command value. In the Response to the Arguments section of the Office Action, the Examiner only addresses the “distribution observance constitution”, and does not respond to the Applicant’s arguments regarding claim 2 on page 8 of the previous Amendment.

Applicant notes that claim 2 recites features that are different from claim 1. For instance, claim 2 recites, *inter alia*, “a self-aligning torque estimating section which estimates a self-aligning torque from a motor rotation signal or an angular speed signal and the motor electric current command value.”

To the contrary, in Endo, the self-aligning torque T_s is computed by the constitution such as the Expressions (3)-(4) that a slip angle β , a yaw rate γ and an actual steering angle δ are inputs. As such, Endo does not teach or suggest a self-aligning torque estimating section which estimates the self-aligning torque from a motor rotation signal or an angular speed signal and the motor electric current command value, as recited in claim 2.

In view of the above, Applicant submits that claim 2 is allowable over the cited reference.

Claims 3-8

Applicant respectfully submits that claims 3-8 are patentable at least by virtue of their dependency on claims 1 or 2 and the additional features recited therein.

Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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23373

CUSTOMER NUMBER

Date: June 10, 2009